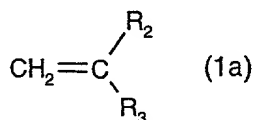


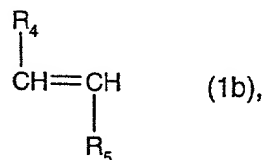
**Claims:**

1. A crosslinkable or polymerizable prepolymer that is obtainable by
  - (a) copolymerizing at least one hydrophilic monomer having one ethylenically unsaturated double bond and at least one crosslinker comprising two or more ethylenically unsaturated double bonds in the presence of a chain transfer agent having a functional group; and
  - (b) reacting one or more functional groups of the resulting copolymer with an organic compound having an ethylenically unsaturated group.

2. A prepolymer according to claim 1, wherein the hydrophilic monomer according to step (a) is a radical of formula



or



wherein  $\text{R}_2$  is hydrogen or  $\text{C}_1\text{-C}_4$ -alkyl,  $\text{R}_4$  is  $\text{C}_1\text{-C}_4$ -alkyl, phenyl or a radical  $-\text{C}(\text{O})\text{OY}_9$ , wherein  $\text{Y}_9$  is hydrogen or unsubstituted or hydroxy-substituted  $\text{C}_1\text{-C}_4$ -alkyl,  $\text{R}_5$  is a radical  $-\text{C}(\text{O})\text{Y}_9'$  or  $-\text{CH}_2\text{-C}(\text{O})\text{OY}_9'$  wherein  $\text{Y}_9'$  independently has the meaning of  $\text{Y}_9$ , and  $\text{R}_3$  is (i) a non-ionic substituent selected from  $\text{C}_1\text{-C}_6$ -alkyl which is substituted by one or more same or different substituents selected from the group consisting of  $-\text{OH}$ ,  $\text{C}_1\text{-C}_4$ -alkoxy and  $-\text{NRR}'$ , wherein  $\text{R}$  and  $\text{R}'$  are each independently of another hydrogen or unsubstituted or hydroxy-substituted  $\text{C}_1\text{-C}_6$ -alkyl or phenyl; phenyl which is substituted by hydroxy,  $\text{C}_1\text{-C}_4$ -alkoxy or  $-\text{NRR}'$ , wherein  $\text{R}$  and  $\text{R}'$  are as defined above; a radical  $-\text{COOY}$ , wherein  $\text{Y}$  is  $\text{C}_1\text{-C}_4$ -alkyl,  $\text{C}_1\text{-C}_{24}$ -alkyl which is substituted by hydroxy,  $\text{C}_1\text{-C}_4$ -alkoxy,  $-\text{O-Si}(\text{CH}_3)_3$ ,  $-\text{NRR}'$  wherein  $\text{R}$  and  $\text{R}'$  are as defined above, a radical  $-\text{O}-(\text{CH}_2\text{CH}_2\text{O})_{1-24}\text{-E}$  wherein  $\text{E}$  is hydrogen or  $\text{C}_1\text{-C}_6$ -alkyl, or a radical  $-\text{NH-C}(\text{O})\text{-O-G}$ , wherein  $-\text{O-G}$  is the radical of a saccharide with 1 to 8 sugar units or is a radical  $-\text{O}-(\text{CH}_2\text{CH}_2\text{O})_{1-24}\text{-E}$ , wherein  $\text{E}$  is as defined above, or  $\text{Y}$  is  $\text{C}_5\text{-C}_8$ -cycloalkyl which is unsubstituted or substituted by  $\text{C}_1\text{-C}_4$ -alkyl or  $\text{C}_1\text{-C}_4$ -alkoxy, or is unsubstituted or  $\text{C}_1\text{-C}_4$ -alkyl- or  $\text{C}_1\text{-C}_4$ -alkoxy-substituted phenyl or  $\text{C}_7\text{-C}_{12}$ -aralkyl;  $-\text{CONY}_1\text{Y}_2$  wherein  $\text{Y}_1$  and  $\text{Y}_2$  are each independently hydrogen,  $\text{C}_1\text{-C}_4$ -alkyl,  $\text{C}_1\text{-C}_{12}$ -alkyl, which is substituted by hydroxy,  $\text{C}_1\text{-C}_4$ -alkoxy, a radical  $-\text{CH}(\text{OR}_{18})_2$  wherein  $\text{R}_{18}$  is hydrogen,  $\text{C}_1\text{-C}_4$ -alkyl or  $\text{C}_2\text{-C}_5$ -alkanoyl, or a radical  $-\text{O}-(\text{CH}_2\text{CH}_2\text{O})_{1-24}\text{-E}$  wherein  $\text{E}$  is as defined above, or  $\text{Y}_1$  and  $\text{Y}_2$  together with the adjacent  $\text{N}$ -atom form a five- or six-membered heterocyclic ring

having no additional heteroatom or one additional oxygen or nitrogen atom; a radical  $-OY_3$ , wherein  $Y_3$  is hydrogen;  $C_1$ - $C_4$ -alkyl or  $C_1$ - $C_{12}$ -alkyl which is substituted by  $-NRR'$ ; or is a radical  $-C(O)-C_1$ - $C_4$ -alkyl; and wherein R and R' are as defined above; or a five- to seven-membered heterocyclic radical having at least one N-atom and being bound in each case via said nitrogen atom; or

(ii) an anionic substituent selected from  $C_1$ - $C_6$ -alkyl which is substituted by  $-SO_3H$ ,  $-OSO_3H$ ,  $-OPO_3H_2$  and  $-COOH$ ; phenyl which is substituted by one or more same or different substituents selected from the group consisting of  $-SO_3H$ ,  $-COOH$ ,  $-OH$  and  $-CH_2-SO_3H$ ;  $-COOH$ ; a radical  $-COOY_4$ , wherein  $Y_4$  is  $C_1$ - $C_{24}$ -alkyl which is substituted by  $-COOH$ ,  $-SO_3H$ ,  $-OSO_3H$ ,  $-OPO_3H_2$  or by a radical  $-NH-C(O)-O-G'$  wherein  $G'$  is the radical of an anionic carbohydrate; a radical  $-CONY_5Y_6$  wherein  $Y_5$  is  $C_1$ - $C_{24}$ -alkyl which is substituted by  $-COOH$ ,  $-SO_3H$ ,  $-OSO_3H$ , or  $-OPO_3H_2$  and  $Y_6$  independently has the meaning of  $Y_5$  or is hydrogen or  $C_1$ - $C_{12}$ -alkyl; or  $-SO_3H$ ; or a salt thereof; or

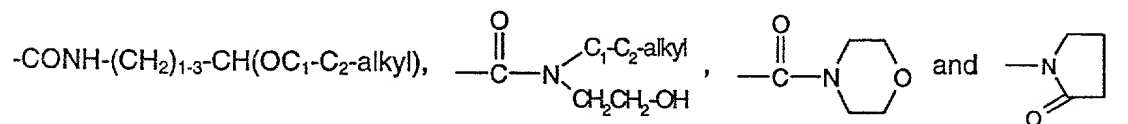
(iii) a cationic substituent selected from  $C_1$ - $C_{12}$ -alkyl which is substituted by a radical  $-NRR'R''An^+$ , wherein R, R' and R'' are each independently of another hydrogen or unsubstituted or hydroxy-substituted  $C_1$ - $C_6$ -alkyl or phenyl, and  $An^+$  is an anion; or a radical  $-C(O)OY_7$ , wherein  $Y_7$  is  $C_1$ - $C_{24}$ -alkyl which is substituted by  $-NRR'R''An^+$  and is further unsubstituted or substituted by hydroxy, wherein R, R', R'' and  $An^+$  are as defined above; or

(iv) a zwitterionic substituent  $-R_1-Zw$ , wherein  $R_1$  is a direct bond or a carbonyl, carbonate, amide, ester, dicarboanhydride, dicarboimide, urea or urethane group; and Zw is an aliphatic moiety comprising one anionic and one cationic group each.

3. A prepolymer according to claim 1, wherein the hydrophilic monomer according to step (a) is a radical of formula

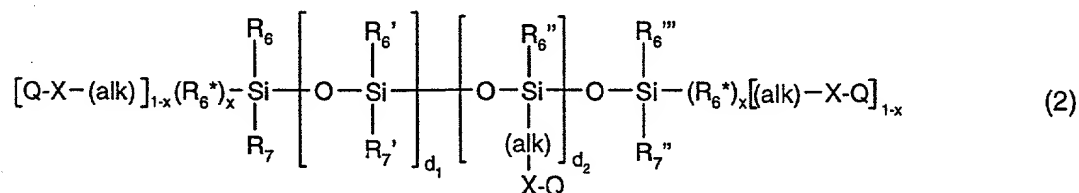


wherein  $R_2$  is hydrogen or methyl and  $R_3$  is a non-ionic substituent selected from  $-COO-C_1$ - $C_2$ -alkyl,  $-COO-(CH_2)_{2-4}-OH$ ,  $-CONH_2$ ,  $-CON(CH_3)_2$ ,  $-CONH-(CH_2)_2-OH$ ,



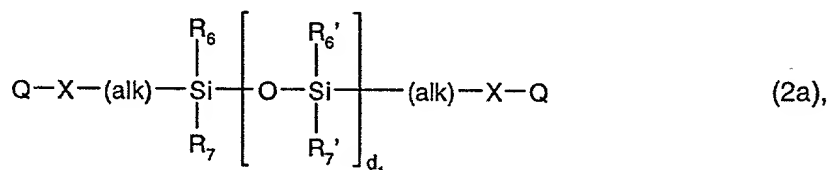
4. A prepolymer according to claim 1, wherein the crosslinker according to step (a) is a polysiloxane, perfluoroalkyl polyether or polysiloxane/perfluoroalkyl polyether block copolymer comprising in each case two or more ethylenically unsaturated double bonds.

5. A prepolymer according to claim 1, wherein the crosslinker according to step (a) is a polysiloxane of formula

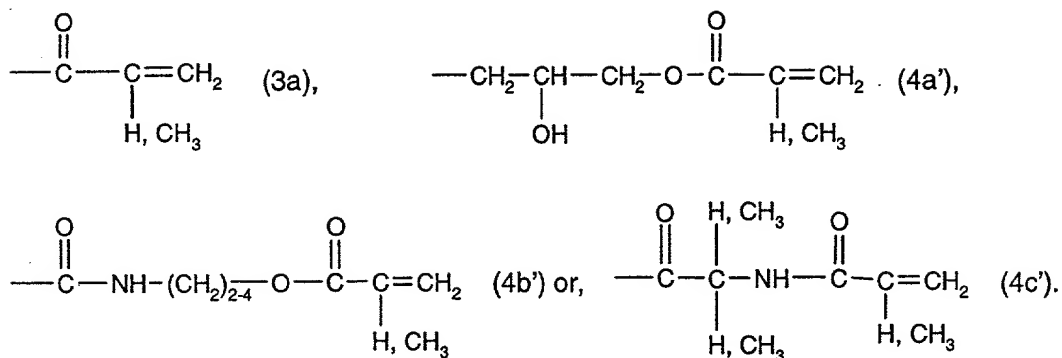


in which (alk) is alkylene having up to 20 carbon atoms which may be interrupted by -O-; X is -O- or -NR<sub>8</sub>-, R<sub>8</sub> is hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl, Q is an organic radical comprising a crosslinkable or polymerizable group, 80-100% of the radicals R<sub>6</sub>, R<sub>6</sub>', R<sub>6</sub>'', R<sub>6</sub>''', R<sub>6</sub>\*, R<sub>7</sub>, R<sub>7</sub>' and R<sub>7</sub>'', independently of one another, are C<sub>1</sub>-C<sub>8</sub>-alkyl and 0-20% of the radicals R<sub>6</sub>, R<sub>6</sub>', R<sub>6</sub>'', R<sub>6</sub>''', R<sub>6</sub>\*, R<sub>7</sub>, R<sub>7</sub>' and R<sub>7</sub>'', independently of one another, are unsubstituted or C<sub>1</sub>-C<sub>4</sub> alkyl- or C<sub>1</sub>-C<sub>4</sub>-alkoxy-substituted phenyl, fluoro(C<sub>1</sub>-C<sub>18</sub>-alkyl), cyano(C<sub>1</sub>-C<sub>12</sub>-alkyl), hydroxy-C<sub>1</sub>-C<sub>6</sub>-alkyl or amino-C<sub>1</sub>-C<sub>6</sub>-alkyl, x is the number 0 or 1, d<sub>1</sub> is an integer of from 5 to 700, d<sub>2</sub> is an integer from 0 to 8 if x is 0, and is 2 to 10 if x is 1, and the sum of (d<sub>1</sub>+d<sub>2</sub>) is from 5 to 700.

6. A prepolymer according to claim 1, wherein the crosslinker according to step (a) is a polysiloxane of formula



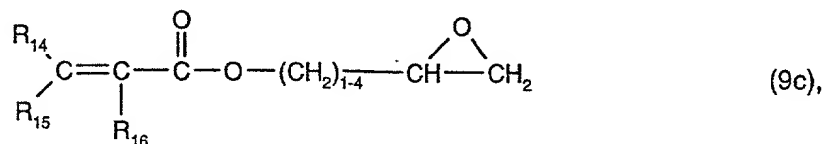
wherein R<sub>6</sub>, R<sub>6</sub>', R<sub>7</sub> and R<sub>7</sub>' are each methyl, d<sub>1</sub> is an integer from 10 to 300, (alk) is linear or branched C<sub>2</sub>-C<sub>6</sub> alkylene or a radical -(CH<sub>2</sub>)<sub>1-3</sub>-O-(CH<sub>2</sub>)<sub>1-3</sub>-, X is -O- or -NH- and Q is a radical of the formula

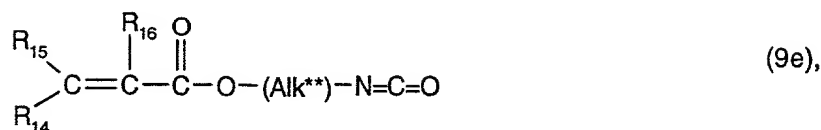
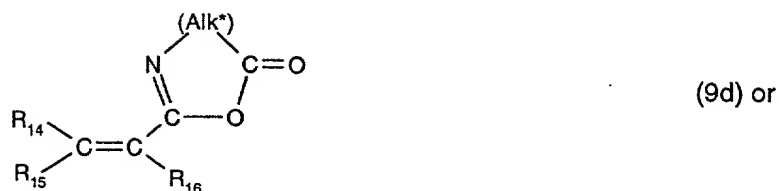


7. A prepolymer according to claim 1, wherein the functional chain transfer agent used in step (a) is an organic primary thiol having a hydroxy, amino, N-C<sub>1</sub>-C<sub>6</sub>-alkylamino or carboxy group.

8. A prepolymer according to claim 1, wherein prepolymer according to any one of claims 1 to 6, wherein, the components in step (a) are used in a molar ratio of from 0.5 to 5 equivalents chain transfer agent : 1 equivalent crosslinker : 5 to 60 equivalents hydrophilic monomer(s).

9. A prepolymer according to claim 1, wherein the copolymer of step (a) is reacted in step (b) with a compound of formula





wherein  $R_{13}$  is halogen, hydroxy, unsubstituted or hydroxy-substituted  $C_1$ - $C_6$ -alkoxy or phenoxy,  $R_{14}$ , and  $R_{15}$  are each independently of the other hydrogen,  $C_1$ - $C_4$ -alkyl, phenyl, carboxy or halogen,  $R_{16}$  is hydrogen,  $C_1$ - $C_4$ -alkyl or halogen,  $R_{17}$  and  $R_{17}'$  are each an ethylenically unsaturated radical having from 2 to 6 C-atoms, or  $R_{17}$  and  $R_{17}'$  together form a bivalent radical  $-\text{C}(\text{R}_{14})=\text{C}(\text{R}_{16})-$  wherein  $R_{14}$  and  $R_{16}$  are as defined above, and  $(\text{Alk}^*)$  is  $C_1$ - $C_6$ -alkylene, and  $(\text{Alk}^{**})$  is  $C_2$ - $C_{12}$ -alkylene.

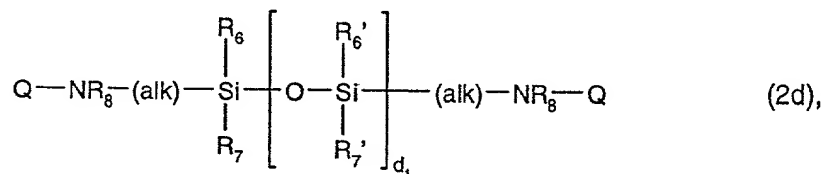
10. A process for the manufacture of a moulding, which comprises crosslinking a prepolymer obtainable according to claim 1 in a mould.

11. A process according to claim 10 wherein the moulding is an ophthalmic moulding and wherein the prepolymer is photo-crosslinked in an ophthalmic mould using visible or UV light.

12. A moulding obtainable by the process according to claim 10.

13. A moulding according to claim 12, which is a contact lens, intraocular lens, or artificial cornea.

14. A compound of formula



wherein  $R_6$ ,  $R_6'$ ,  $R_7$ ,  $R_7'$ ,  $R_8$ , (alk) and Q are each as defined in claim 5.